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| Booker T Washington Middle School/ Young Audiences of MD  Arts & Math Integration Workshop• December 2012 | | | | | | | |
| Your Name: Diane M Worsley | | | | | Grade 6-8 | | |
| School Name: **Booker T Washington Middle School** | | | | | | | |
| Lesson Title: **MATH MEETS ART** (Building Background Knowledge)**:** (lesson 45-60 min.) Small group/partners | | | | | | | |
| MSC | **Visual Arts** | **Standard 1.0 Perceiving and Responding: Aesthetic Education**  Students will demonstrate the ability to perceive, [interpret](javascript:openPopupWH('/share/vsc/glossary/visual_arts/interpret_interpretation.html',200,200)), and respond to ideas, experiences, and the [environment](javascript:openPopupWH('/share/vsc/glossary/visual_arts/environment.html',200,200)) through visual [art](javascript:openPopupWH('/share/vsc/glossary/visual_arts/art.html',200,200)).  **Indicator 2.**  **Objectives 1. Standard 1.0 Perceiving and Responding: Aesthetic Education**  Students will demonstrate the ability to perceive, [interpret](javascript:openPopupWH('/share/vsc/glossary/visual_arts/interpret_interpretation.html',200,200)), and respond to ideas, experiences, and the [environment](javascript:openPopupWH('/share/vsc/glossary/visual_arts/environment.html',200,200)) through visual [art](javascript:openPopupWH('/share/vsc/glossary/visual_arts/art.html',200,200)).  **Indicator 2.** [Interpret](javascript:openPopupWH('/share/vsc/glossary/visual_arts/interpret_interpretation.html',200,200)) and communicate the meaning of [art works](javascript:openPopupWH('/share/vsc/glossary/visual_arts/artwork_work_of_art.html',200,200))  **Objectives 1.** Identify [narrative conventions](javascript:openPopupWH('/share/vsc/glossary/visual_arts/narrative_conventions.html',200,200)) used by [artists](javascript:openPopupWH('/share/vsc/glossary/visual_arts/artists.html',200,200)) in selected artworks.  **Indicator 3.**Analyze the application of the [elements of art](javascript:openPopupWH('/share/vsc/glossary/visual_arts/elements_of_art_elements_of_design.html',200,200)) and [principles of design](javascript:openPopupWH('/share/vsc/glossary/visual_arts/principles_of_design_principles_of_art.html',200,200)) in [artistic exemplars](javascript:openPopupWH('/share/vsc/glossary/visual_arts/artistic_exemplar.html',200,200)) and personal [artworks](javascript:openPopupWH('/share/vsc/glossary/visual_arts/artwork_work_of_art.html',200,200))  **Objectives 1.** Identify and [describe](javascript:openPopupWH('/share/vsc/glossary/visual_arts/describe_description.html',200,200)) how [artists](javascript:openPopupWH('/share/vsc/glossary/visual_arts/artists.html',200,200)) use [design concepts](javascript:openPopupWH('/share/vsc/glossary/visual_arts/design_concepts.html',200,200)) to organize the [elements of art](javascript:openPopupWH('/share/vsc/glossary/visual_arts/elements_of_art_elements_of_design.html',200,200)) and [principles of design](javascript:openPopupWH('/share/vsc/glossary/visual_arts/principles_of_design_principles_of_art.html',200,200)) to convey ideas, thoughts, and feelings. | | | | | |
| **Mathematics** | Standard 3.OA.7  Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.  Essential Skills and Knowledge  Knowledge of multiplication and division strategies and properties to achieve efficient recall of facts  Ability to use multiple strategies to enhance understanding  Ability to model the various properties using concrete materials | | | | | |
|  |  | KNOWLEDGE OBJECTIVES  (To Know) | SKILL  OBJECTIVES  (To Be Able To Do) | FORMATIVE  ASSESSMENT | | SUMATIVE  ASSESSMENT | 21ST CENTURY SKILLS |
| LESSON PLAN  **Part 1** | **Fine Arts** |  |  |  | |  |  |
| **Mathematics** | - Formulas and process to find area and perimeter  Multiplication tables and basic arithmetic facts  **Standard 3.OA.4**  Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations*  *8 x ? = 48, 5 =*☐ *÷ 3, 6 x 6 = ?* | - The student will be diligent and solve the problems  Essential Skills and Knowledge :  Ability to use concrete objects to compose and decompose sets of numbers  Ability to use the inverse operation as it applies to given equation  Knowledge of fact families  Ability to find the unknown in a given multiplication or division equation, where the unknown is represented by a  question mark, a box, or a blank line  Ability to solve problems that employ different placements for the unknown and product/quotient | - Student will be able to explain and show how the answer is found | | **Post- survey –** quick poll of previous knowledge (post-it and photo camera)  **Constructed responses** on exit ticket  - | -• Critical thinking and problem solving  • Collaboration, teamwork, and leadership  • Communication   * Make sense of problems and persevere in solving them. * Reason abstractly and quantitatively. * Construct viable   arguments and critique the reasoning of others.  Model with mathematics. |

The view outside George’s bedroom window was gray and boring. George decided to paint the wall in his bedroom the same way Ellsworth Kelly painted *Colors for a Large Wall.* After the first week, George had 3/4 of the squares left to paint. The second week he painted ¾ of what was left. How much of the painting – as a fraction– he needs to work on? How many squares need to be painted?

**Solution**

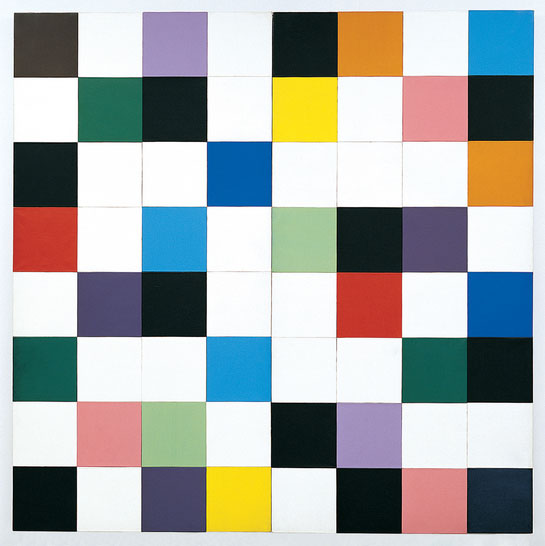
Remember: “top number” = counting and “bottom number” = naming!

¾ of 2/3  of means multiplication

¾ x 2/3= 6/12=3/4

¾ corresponds to 16 squares

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Write the fractions for each group of colors. There are 2 yellow squares=2/64.